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Intelligence Report

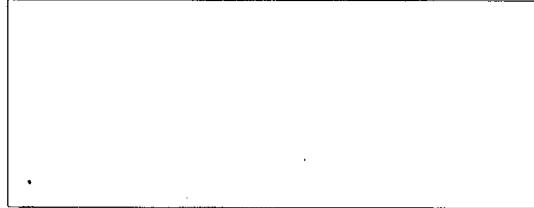
*Warsaw Pact Air Power: Capabilities for Reinforcement
of Tactical Air Forces in Central Europe*

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SR IR 75-2-S
March 1975

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Warsaw Pact Air Power: Capabilities for Reinforcement of Tactical Air Forces in Central Europe

Principal Conclusions

The offensive wartime role the Warsaw Pact assigns its tactical air forces in Central Europe is predicated on their early, rapid reinforcement from bases in the western USSR. Pact commanders are apparently counting on the timely infusion of Soviet air strength to carry out massive, coordinated air attacks during the initial phases of a conventional conflict in Europe. These strikes would be targeted primarily against NATO's air forces and tactical nuclear assets.

- Analysis of Pact plans and exercises shows that force requirements for some air operations exceed the number of aircraft located in Central Europe in peacetime, indicating that the Pact probably would reinforce its tactical air forces prior to and during hostilities.

The Pact probably would be able to conduct a large-scale tactical air reinforcement operation with sufficient rapidity to meet its overall force requirements for offensive air operations against the NATO Central Region.

- There evidently is an adequate number of airfields and sufficient stocks of aviation POL and munitions prepositioned in the forward area to sustain combat operations by all Pact tactical aircraft—including reinforcements—until additional logistic support arrives from the USSR.
- The Soviet air force probably could deploy several hundred tactical aircraft along with attendant ground personnel and equipment from the western USSR to the forward area in one to three days, depending on the amount of air transport support allocated to the air reinforcement effort. This does not take into consideration the potential effects of incalculables such as adverse weather, communications or equipment malfunctions, air traffic congestion, or military counteractions by NATO.

The necessity for immediate, large-scale air reinforcement prior to or during the initial phases of hostilities in Europe could be reduced over the next several years by the introduction into Pact tactical air forces of newer aircraft with improved range and payload capabilities.

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
March 1975

INTELLIGENCE REPORT

Warsaw Pact Air Power: Capabilities
for Reinforcement of Tactical Air Forces
in Central Europe

Introduction

Diverse intelligence sources indicate that the Warsaw Pact has devised plans for massive offensive air operations against the NATO Central Region during the initial phases of a conventional conflict in Europe. Force requirements for such operations could commit the Pact, prior to the onset of hostilities, to a large-scale reinforcement of its tactical air forces in the forward area—with aircraft—from the western USSR. Continued requirements for air support during the ensuing phases of a conflict almost certainly would necessitate the deployment of additional combat aircraft into Eastern Europe.

This report outlines what is known of Pact plans for tactical air reinforcement in Central Europe and assesses overall Soviet capabilities to conduct a large-scale air reinforcement operation.

A summary of this report begins on page 28.

Comments and queries regarding this publication are welcome.

They may be directed to [redacted]

Office of Strategic Research, [redacted]

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Pact Concepts for Air Warfare in Europe
and Reinforcement Plan

The current structure and equipment of the Warsaw Pact's tactical air forces--known as "Frontal Aviation"--still reflect Pact doctrinal concepts of the late fifties and early sixties that war with NATO would begin with or immediately escalate to nuclear conflict. Within this doctrinal framework, Frontal Aviation was equipped with short-range, low-payload aircraft for air defense and reconnaissance operations over the battlefield and for delivery of nuclear strikes in the zone of operations of the front.* Such missions would be augmented by the tactical missiles and rockets of the ground forces. The main strategic nuclear strike forces were the MRBMs, IRBMs, and medium bombers based in the USSR.

With NATO's acceptance of the US doctrine of flexible response in the mid-sixties, Soviet planners began to alter their concept of the nature of a future war with NATO. The Pact came to recognize that such a conflict could begin with an indeterminate but limited period of conventional warfare. The duration of the conventional phase would probably be decided by NATO's degree of success in conducting nonnuclear forward defense.

The conventional capabilities of the Pact tactical air forces have not yet been fully upgraded to conform with this change in doctrine, however. Pact planners have had to develop interim plans for the employment of their existing tactical aircraft in conventional offensive operations until aircraft with improved conventional capabilities became available in sufficient numbers in the late seventies.

* In Warsaw Pact terminology a front is a formation usually consisting of several field armies and a tactical air army, plus combat and service support units.

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These interim plans, termed "air operations" by many Pact planners,* call for massive and coordinated theaterwide attacks against NATO with conventional ordnance by Pact Frontal Aviation and elements of the Soviet medium bomber force at the onset of hostilities. The primary objective of these attacks is the destruction of NATO's nuclear-capable forces.

There is no direct evidence indicating the number of tactical aircraft that the Pact believes will be required to conduct its air operations plans. It may be inferred from Pact sources [redacted] however, that as many as 2,200 combat aircraft** could be operating from bases in the forward area. (See map appended.) These fighters, fighter-bombers, and light bombers must perform a dual role: fly combined conventional operations with medium bombers from the USSR and make up an adequate nuclear-armed reserve force, should nuclear strikes become necessary.

Soviet Frontal Aviation in East Germany, Poland, and Czechoslovakia currently comprises some 980 combat aircraft.*** (See table at right.) The Polish, Czechoslovak, and East German tactical air forces add about 655 combat aircraft--for a total of around 1,635 tactical combat aircraft stationed in Eastern Europe opposite the NATO Central Region. In some contingencies, therefore, as many as 565 additional combat aircraft would be needed to satisfy Pact force requirements for the initial strikes in a conventional air war against NATO. Continued air support in later phases of the conflict almost certainly would require additional reinforcement.

* See Warsaw Pact Air Power: Concepts for Conventional Air Operations Against NATO, SR IR 72-17-S, October 1972 [redacted]

** Does not include combat-capable trainers or aircraft with a primary mission of reconnaissance.

*** For a more complete discussion of the posture of Warsaw Pact Frontal Aviation opposite NATO see Warsaw Pact Air Power: Forces for Use in Central Europe, SR IR 74-1, December 1973 [redacted]

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Potential Strength of Warsaw Pact
Frontal Aviation Opposite NATO Central Region
After Reinforcement*

<u>East Germany and Western Poland</u>	In forward area			Available reinforce- ments	Total aircraft
	Non- Soviet	Soviet	Total		
Group of Soviet Forces in Germany: 650					
Northern Group of Forces: 250		900			
East German Tac- tical Air Forces: 35					
Polish Tactical Air Forces: 355		390			
			1,290		
From Baltic Military District: 225					
From Belorussian Military District: 240				465	
Total available					<u>1,755</u>
<u>Czechoslovakia</u>					
Soviet Central Group of Forces		80			
Czechoslovak Tac- tical Air Forces		265		345	
From Carpathian Military District				305	
Total available					<u>650</u>
<u>Totals**</u>	<u>980</u>	<u>655</u>	<u>1,635</u>	<u>770</u>	<u>2,405</u>

* There are some 755 additional combat aircraft in the national air defense forces of Poland, Czechoslovakia, and East Germany that probably would support the Pact tactical air forces during the initial period of hostilities. They may fly close escort for transiting Soviet bombers, but they more likely would defend the Soviet bomber forces--and the ground forces--by engaging NATO aircraft operating over Pact territory.

** Figures do not include reconnaissance aircraft and combat-capable trainers.

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[] analysis [] indicate that Soviet tactical air forces in the Baltic, Belorussian, and Carpathian Military Districts are earmarked for early reinforcement of Pact forces engaged in Central Europe. These Soviet air armies have a total of about 770 combat aircraft --320 fighters, 285 fighter-bombers and 165 light bombers.

Pact sources [] also indicate that, in time of war, the concentrations of tactical air forces in the forward area would generally correspond to the locations of the major ground force formations in East Germany and western Czechoslovakia. And tactical air units would be under the operational control of the Soviet General Staff or the Soviet Air Forces headquarters. Most aircraft from the western USSR probably would move into the forward area well in advance of reinforcing ground forces, and would be available for initial air operations.

Reinforcement From Baltic Military District

[] the tactical aircraft in the Baltic Military District of the USSR are probably earmarked for employment against NATO forces opposite East Germany. Little is known, however, about the specific allocations of the reinforcing units within this operational area.

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Reinforcement From Belorussian Military District

[redacted] evidence concerning the wartime deployment of tactical aircraft based in the Belorussian Military District.

[redacted] aircraft from Belorussia have been earmarked for deployment directly into East Germany.

The limited combat radius of Pact tactical aircraft, particularly when loaded with conventional ordnance, suggests that most aircraft from Belorussia will deploy directly to East Germany in order to reduce the flying distances to NATO targets. This estimate is supported by [redacted]

[redacted] planning maps for the deployment of the [redacted] regiment to East Germany during wartime. [redacted] a list of targets in West Germany assigned to that unit.

Reinforcement From Carpathian Military District

After the Warsaw Pact invasion of Czechoslovakia in 1968, ground and air forces from the Carpathian Military District were permanently stationed in Czechoslovakia. These forces may serve as an advance element of the Carpathian Front. [redacted]

[redacted] additional air units from the Carpathian Military District would begin arriving in Czechoslovakia almost immediately after the start of mobilization--presumably to support conventional air

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operations. [redacted]

Overall, Frontal Aviation forces available for operations in the Pact's southernmost front opposite the NATO Central Region would almost certainly be composed of the 345 combat aircraft in Czechoslovak and Soviet units presently in Czechoslovakia, plus reinforcement combat aircraft from the Carpathian Military District.

Deployment Within the Forward Area

Pact Frontal Aviation forces available for use opposite central and northern East Germany probably would include Polish Frontal Aviation and the tactical air army subordinate to the Soviet Northern Group of Forces in Poland. This judgment is supported by analysis [redacted] which indicates that Polish military forces would be the backbone of a front advancing westward along the Baltic and North Sea coasts.

Other redeployments by Frontal Aviation forces probably would include the movement of units from eastern Czechoslovakia to base airfields nearer the West German border. Some other Pact units in Czechoslovakia and East Germany, particularly the short-range fighter-bomber regiments, probably would also move to base airfields as close to the West German border as possible.

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Timing

Available intelligence provides little clear evidence on the planned timing of Soviet tactical air reinforcement with respect to the national mobilization schedule* or the initiation of hostilities. The nature of the air reinforcement operation and the peacetime posture of Soviet tactical air forces suggest that the Soviets probably would not initiate reinforcement more than a day or two before the anticipated beginning of hostilities, regardless of the national mobilization date. Because Frontal Aviation units in the western USSR are maintained at or near their authorized wartime personnel and equipment strengths, almost no mobilization would be required to bring these forces to combat readiness. Theoretically, the Soviets could reinforce their tactical air forces opposite central NATO with units from the western USSR at any time prior to or after national mobilization began.

If the USSR were to attempt a clandestine mobilization to a war footing, air reinforcement probably would be planned as one of the last acts prior to the anticipated outbreak of warfare. It would be extremely difficult for the Soviets to fly several hundred aircraft into the forward area without their detection

Large-scale movements by air units already located in Eastern Europe might also provide indications to NATO that the Pact was preparing for war.

The Soviets probably would consider the highly visible movement of combat aircraft and logistic support from the USSR into the forward area as risking a serious provocation to NATO. Moreover, the more time that elapsed between air reinforcement and the beginning of hostilities, the longer NATO intel-

* For an analysis of Pact mobilization procedures see *Warsaw Pact Mobilization Plans and the Transition to a War Footing*, SR IR 74-2-S, January 1974 (S).

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ligence would have for locating and targeting the reinforcing Soviet air units. This disadvantage might be somewhat offset by the additional operational preparedness afforded Soviet reinforcing units before their first combat sortie.

Logistic Support for Frontal Aviation in Central Europe

The availability of airfields, POL, and munitions in the forward deployment areas is one of the most critical factors affecting Soviet capabilities to quickly reinforce the Frontal Aviation forces in Central Europe. Several hundred aircraft could begin arriving in the forward area within hours after the decision to reinforce had been made. There would have to be a sufficient number of airfields to receive these aircraft and enough POL and munitions prepositioned in Eastern Europe to sustain full combat operations by all air forces in the area until other logistic support arrived from the USSR.

Basing Doctrine and Airfield Requirements

Pact sources indicate that Pact planners consider the following basing criteria to be essential for the support of modern air combat operations in the forward area:

- for fighter-bomber regiments, one base airfield per regiment located no farther than 55 nm from the West German border
- for fighter regiments and reconnaissance regiments equipped with fighter aircraft,

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one base airfield per regiment located no farther than 80 nm from the West German border

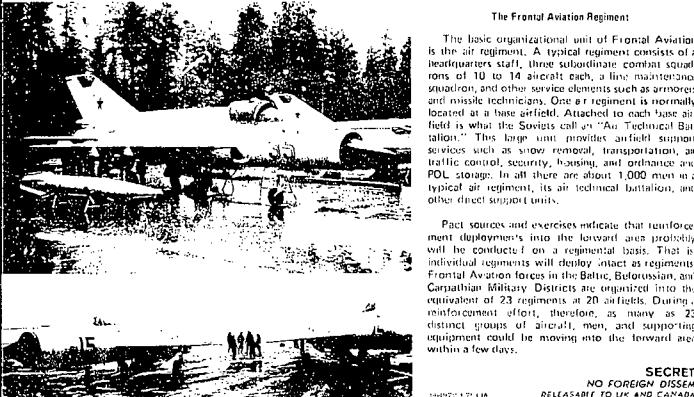
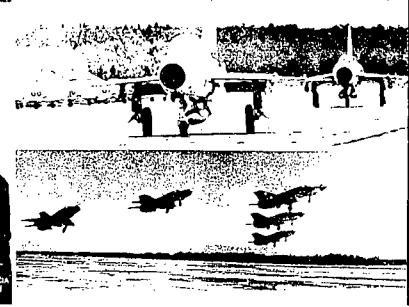
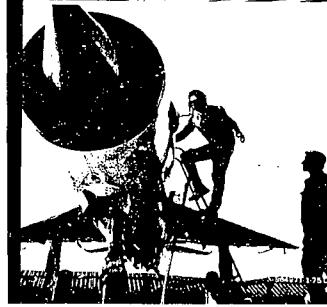
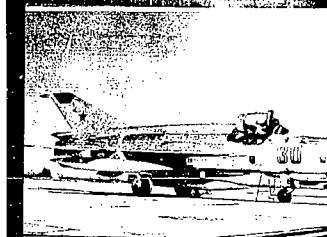
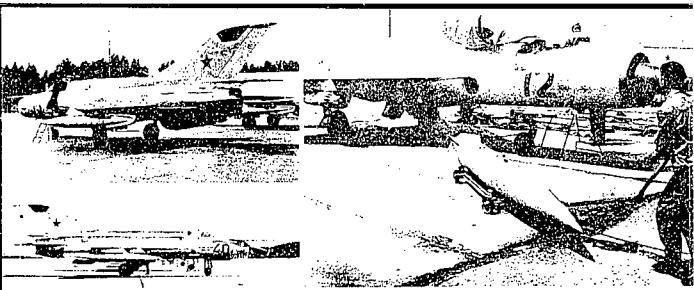
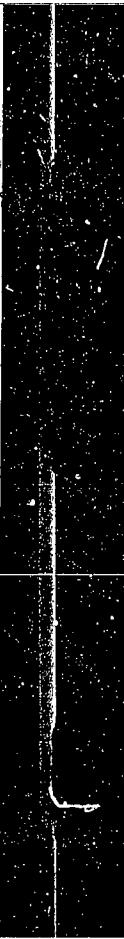
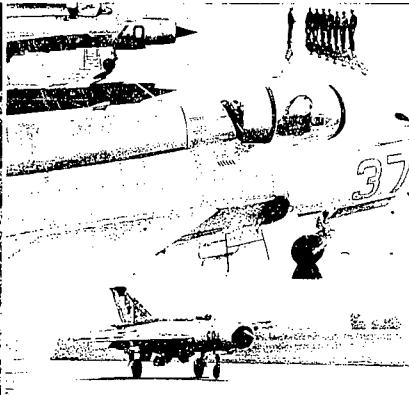
-- for light bomber regiments and reconnaissance regiments equipped with light bomber aircraft, two base airfields per regiment located no farther than 160 nm from the West German border.

Pact planners must base their tactical aircraft close to the anticipated line of contact because of the relatively limited operational range of most models currently in use by Pact Frontal Aviation.

The types and numbers of Pact Frontal Aviation regiments that probably would be located in East Germany, Western Poland, and Czechoslovakia before and after reinforcement are:

In East Germany and Western Poland	<u>Before rein- forcement</u>	<u>After rein- forcement</u>
-- Fighter-bomber regiments	10	19
-- Fighter and fighter-reconnaissance regiments	13 1/3	23 1/3
-- Light bomber and light-bomber-reconnaissance regiments	3 2/3	9 2/3
	<hr/> 27	<hr/> 52
In Czechoslovakia		
-- Fighter-bomber regiments	4	7
-- Fighter and fighter-reconnaissance regiments	7	11 2/3
-- Light bomber and light-bomber-reconnaissance regiments	0	3 1/3
	<hr/> 11	<hr/> 22
Total	38	74

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The Frontal Aviation Regiment

The basic organizational unit of Frontal Aviation is the air regiment. A typical regiment consists of headquarters staff, three subordinate combat squadrons of 12 to 14 aircraft each, and various service organizations plus other service elements such as engineers and missile technicians. Once a regiment is normally located at a base airfield. Attached to each base airfield is what the Soviets call an "Air Technical Battalion." This large unit provides airfield support services such as snow removal, transportation, traffic control, security, housing, and ordnance and POL storage. In all there are about 1,000 men in a typical air regiment, its air technical battalion, and other direct support units.

Past sources and exercises indicate that reinforcement deployments into the forward area probably will be conducted on a regimental basis. That is, individual regiments will deploy intact as regiments. Frontal Aviation forces in the Baltic, Belorussian, and Carpathian Military Districts are organized into the equivalent of 23 regiments at 20 airfields. During a major conflict, it is felt, therefore, as many as 23 distinct groups of aircraft, men, and supporting equipment could be moving into the forward area within a few days.

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Airfield Availability

There are 133 base airfields--those airfields with at least 6,000 feet of permanent runway--in the forward area opposite the NATO Central Region that could be employed by Frontal Aviation units.

In strict accordance with Pact basing criteria the 101 base airfields in East Germany and Poland could accommodate 40 of the 52 Frontal Aviation units that are believed to be intended for commitment to this area. In Czechoslovakia there are 32 base airfields. At least 17 of the 20 Frontal Aviation units that probably would be located in Czechoslovakia could be based at airfields meeting Pact doctrinal criteria. Overall, about 80 percent of all Frontal Aviation regiments that could be expected to be operating from East Germany, Poland, and Czechoslovakia after air reinforcement could be based according to Pact doctrine. The remaining units could be located at other base airfields no farther than 160 nm from the West German border, or at temporary airfields.*

The high percentage of units that could be based in compliance with Pact doctrine indicates that air operations by tactical aircraft against targets in the NATO Central Region almost certainly would not be restricted because of an insufficient number of airfields.

The extent to which Pact planners will actually be capable of adhering to their basing doctrine is difficult to assess.

* There are some 75 temporary--grass or graded earth--airfields in the forward area that are capable of supporting limited operations by Pact tactical aircraft.

Each temporary airfield can be used by at most two squadrons--24 aircraft--for only one or two sorties in a 24-hour period. Inclement weather would severely reduce the usability of these airfields.

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[redacted] planning is influenced by budgetary considerations. Those portions of exercises which tend to increase costs dramatically--the firing of live ammunition and the use of large numbers of men and equipment--are generally held to a minimum.

[redacted]

POL and Munitions

Evidence obtained from Pact sources indicates that during the initial period of hostilities tactical aircraft would be required to maintain their maximum expected sortie rates--approximately 3 per day for fighter-bomber aircraft, and about 2 per day for light bombers--for about three days. After this 3-day period a number of factors--attrition, personnel fatigue, and diminishing POL and munitions stocks--would necessitate a reduction to about 1.5 sorties per day for all tactical aircraft.

The total amount of aviation POL and munitions available in East Germany has been estimated, and it is unlikely that significant stockpiles of aviation POL and munitions in East Germany remain unidentified. A comparison of the projected expenditure rates with the amounts of POL and munitions estimated to be currently stored in East Germany indicates ..at during the initial period of war, Pact tactical air forces in Central Europe--including reinforcements--would not be restricted by insufficient POL and munitions stocks.*

Airfields and aviation depots in East Germany probably contain sufficient amounts of aviation fuel

* For a more detailed analysis of Soviet logistic capabilities in East Germany see *Logistic Posture of Soviet Forces in East Germany*, SR IR 73-10-S, September 1973 (S).

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to maintain the tactical aircraft assigned there (including reinforcements) for approximately 30 days, and enough air-to-air missiles to supply Pact interceptors in East Germany for about 2 weeks. Stocks of conventional munitions in East Germany probably are sufficient to supply attack aircraft in the area for a period in excess of 2 months. Additional logistic support for Frontal Aviation units in East Germany almost certainly would have started arriving from the USSR within these time periods.

[redacted] in Czechoslovakia and Poland. On the basis of the limited information available, however, it is assumed that the supply of aviation POL and munitions stored in these areas, in relation to anticipated need, approximates that in East Germany.

Aircraft Shelters

There are about 1,125 aircraft shelters at Frontal Aviation bases in East Germany, Poland, and Czechoslovakia within 160 nm of the West German border. These shelters protect about 75 percent of the Soviet and 50 percent of the East European tactical aircraft stationed in the area in peacetime from destruction by conventional weapons. The East Europeans are still constructing shelters and the percentage of forward based aircraft so protected will increase over the next few years.

A decision not to build additional shelters in Eastern Europe to protect Soviet reinforcement aircraft probably resulted, inter alia, from consideration of cost, as well as an awareness that ongoing Soviet force modernization plans could reduce the necessity for immediate tactical air reinforcement during a war in Europe (see discussion on page 27). In any case, with proper dispersal and camouflaging, the absence of shelters for reinforcement aircraft deployed to the forward area during the interim period should not affect significantly the ability of Pact tactical air forces to mount initial offensive air operations.

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Conducting the Reinforcement

Because stocks of aviation POL and ordnance already located in the forward area apparently are sufficient to sustain Pact air operations for several weeks, the rate of movement of reinforcing Frontal Aviation units from the western USSR into Eastern Europe would depend primarily on Soviet capabilities to move the ground personnel and support equipment. Movement of the combat aircraft themselves should pose no serious problems.

This analysis considers only the theoretical capabilities and probable procedures whereby the Soviets would move tactical air units from the western USSR to Eastern Europe. No effort was made to assess the potential effects of adverse weather, communications or equipment malfunctions, air-traffic congestion, or military counteractions by NATO.

Elements and Timing of Movement

Support personnel and equipment of a Soviet air regiment deploying from the western USSR to an airfield in Eastern Europe probably would move in three parts: an advance element, a second-echelon element, and a rear element. The rear element is not discussed at length in this paper because it probably would proceed by rail or road to the deployment airfield and may not be in place to support the air regiment's initial operations. It would consist mainly of the regiment's larger or non-air-transportable support vehicles, major maintenance and repair equipment and supplies, and technical and support personnel not needed for the advance and second-echelon support

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elements. Additional aviation POL and ordnance probably would also be moved by this support echelon.

The personnel for both the advance and second-echelon elements probably would be drawn mainly from the home base's air technical battalion and from the technical sections of the air regiment. Some support may also be provided by support elements at or near the base to which the air regiment is to deploy. For example, the nearest air technical battalion might be available to deliver fuel for the incoming aircraft if the air regiment's own support personnel or vehicles had not yet arrived.

Role of Air Transport

Although Soviet-based support elements probably are similar in composition to those based in Eastern Europe, more emphasis is placed on air transport because of the greater distances involved. If there were no urgency to the buildup in Central Europe, the reinforcement of Frontal Aviation could be entirely supported by rail or road transport. Since, however, the Soviets anticipate that a full-scale buildup would only be triggered by a rapidly deteriorating international political climate, they estimate that the time element would be critical in any mobilization and forward movement situation.

Only the use of air transport could reduce the preparation time required, and the Soviets evidently intend to rely heavily on air transport to support reinforcement of the air and ground forces in Eastern Europe. This intent seems confirmed by their now routine use of air transport for the rotation of troops and air personnel between Eastern Europe and the USSR and their recent reliance on extensive air-lifts to resupply the Arabs during and after the Middle East war in 1973.

Advance Support Element. The function of the advance support element is to move rapidly to the deployment airfield and prepare it for incoming combat aircraft. It then readies these aircraft within hours for combat operations. East European

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deployment practices indicate that the advance support element of a Soviet regiment deploying to Eastern Europe would consist of about 200 persons from the headquarters staff, the squadron and regimental maintenance sections, and the air technical battalion. The mechanics and technicians would be equipped with individual tool kits and instruments and have an emergency stock of spare parts for each combat aircraft. Three AN-12 or IL-18 aircraft could transport these personnel. (See table, next page.)

The most critical factor determining the amount of ground support equipment that must be moved with the advance element--as well as subsequent support elements--is whether the Soviet air regiment deploys to a "main" base or an "unoccupied" base. In this paper, an unoccupied base is defined as having a permanent, jet-capable runway and parking space, but little or none of the permanent facilities, equipment, or personnel usually found at main operating bases where Pact military air units are located. About one-third of the base airfields in East Germany, Poland, and Czechoslovakia are unoccupied.

The Soviets probably would equip the advance support element deploying to a main operating base with some special tools and ground support equipment as a token backup to the deployment base facilities. Enough items to provide minimal servicing for one flight of three or four aircraft might be provided. This equipment probably includes ground power units for starting the aircraft, emergency sources of compressed air and oxygen, tools for assembly and disassembly of aircraft components, and stands, ladders, jacks, tow-bars, and dollies for servicing and arming the aircraft. A few utility vehicles may also be taken along. Most of these items are air-transportable and are available in several types. To save weight and space the Soviets might choose the smallest models such as those which are skid- or cart-mounted.

For airlift calculation purposes it is estimated that about 20 major items of ground support equipment might be transported by an advance support element deploying to another main base airfield. Five AN-12s would be required to lift this equipment.

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Transport Support Requirements for
Movement of Frontal Aviation Regiments

<u>Advance Support Element</u>	Transport flights required to move a single regiment:		Transport flights required to move all 23 regiments in western USSR to main/unoccupied bases
	To "main" base	To "unoccupied" base	
200 personnel with tool kits and small spare parts	3 AN-12 or IL-18	3 AN-12 or IL-18	69 AN-12 or IL-18
Ground support equipment	5 AN-12	17 AN-12	115/391 AN-12
Subtotal	<u>8</u>	<u>20</u>	<u>184/460</u>
<u>Second-Echelon Support Element</u>			
300 personnel with tool kits and small spare parts	4 AN-12 or IL-18	4 AN-12 or IL-18	92 AN-12 or IL-18
Ground support equipment	3 AN-12	8 AN-12	69/184 AN-12
Subtotal	<u>7</u>	<u>12</u>	<u>161/276</u>
Total	<u><u>15</u></u>	<u><u>32</u></u>	<u><u>345/736</u></u>

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The ground support equipment of an advance element of an air regiment moving to an unoccupied base would be similar to, but in greater quantities than, that carried to a main airfield. An estimated 50 major items might be airlifted. More of the regiment's aircraft starting units, for example, probably would be taken along. Also, a greater variety of spare items, possibly including engines and tires, could be provided to ensure that the deployed unit maintains the necessary sortie levels without excessive dependence on depots in the deployment area. Staff and communications equipment to control the combat aircraft operations could also be flown in, as well as general items such as rations and medical supplies.

A total of 17 AN-12s would be needed to carry the estimated minimum required ground support equipment of the advance element of most air regiments deploying to an unoccupied base. Although the Soviets probably would send as much of the ground support equipment with the advance element as possible, some items may be needed at the home base to ensure the takeoff of all combat aircraft for the deployment airfield. This materiel would move forward with the second echelon rather than with the advance element.

Second-Echelon Support Element. The function of the second-echelon support element is to ensure, in conjunction with the advance element, that planned sortie rates are maintained for the first few days of operations. The second-echelon element would normally deploy after the departure of the combat aircraft from the home base and prior to the unit's first combat mission from the deployment base. If timing were not critical, or if the distance to the deployment base were relatively short, at least part of the second echelon probably would be included in the rear support element and moved by rail or road, as noted in East European deployment examples. Even if airlifted, however, the second echelon might not necessarily be at the deployment airfield in time to assist in preparation for the first few missions. If, for example, there were little preparation time

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prior to hostilities, the combat aircraft might deploy before air transport became available or before the second echelon could be readied for the move. The combat aircraft already at the deployment field might quickly refuel and take off for their first sorties before the second support echelon arrived.

The second-echelon support element probably would consist of up to 300 persons, including most of the remaining technicians and mechanics from the squadron and regimental sections, specialists from the air technical battalion, and the headquarters staff. Four AN-12 or IL-18 transports could airlift these personnel to Eastern Europe.

As with the advance support element, the amount of ground support equipment moved with the second-echelon element would depend on whether the air regiments were moving to a main or unoccupied airfield. An additional 20 major items of equipment, requiring three AN-12s, might be moved to a main base. Some 35 additional items, requiring eight AN-12s, might be moved to an unoccupied airfield. One or two additional AN-12s probably would be needed by light bomber regiments equipped with twin-engine aircraft because of the greater number of spare engines.

Air Army and Division Headquarters. A priority requirement probably would also exist to airlift the command and staff elements of the air army and combat air division headquarters in the three western military districts, along with specialists from the various components of these commands. Up to half the personnel from a single air army headquarters and its division headquarters deploying from the western USSR, along with special equipment, might be airlifted by about 30 light transports such as the LI-2 Cab or IL-14 Crate. As with the combat regiments, the higher headquarters personnel probably would deploy in at least two elements.

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Total Airlift Requirements

As shown in the table (page 20), some 350 round-trip airlifts by transport aircraft would be required if all 23 air regiments in the Baltic, Belorussian, and Carpathian Military Districts deployed to compatible main airfields. This number would include about 185 flights to transport the advance support elements and about 165 flights for the second-echelon elements.

In all, about 25 percent of the ground support equipment and 50 percent of the personnel in these units could be airlifted by this number of missions. As individual transport aircraft completed their task of helping to move tactical air units they could be assigned to support other military forces. Some of the transports, however, probably would continue to support the air forces by providing follow-on logistics airlift.

If all 23 air regiments in the western military districts deployed to unoccupied bases, about 740 round-trip flights by transport aircraft would be required. Some 460 of these flights would be needed for the advance support elements alone if all, or nearly all, of their ground support equipment and supplies were to arrive shortly afterwards. The remaining 280 missions would be needed to move the second-echelon support elements. Some 50 percent of the personnel and ground support equipment in the reinforcement units could be airlifted to unoccupied bases by this number of transport flights.

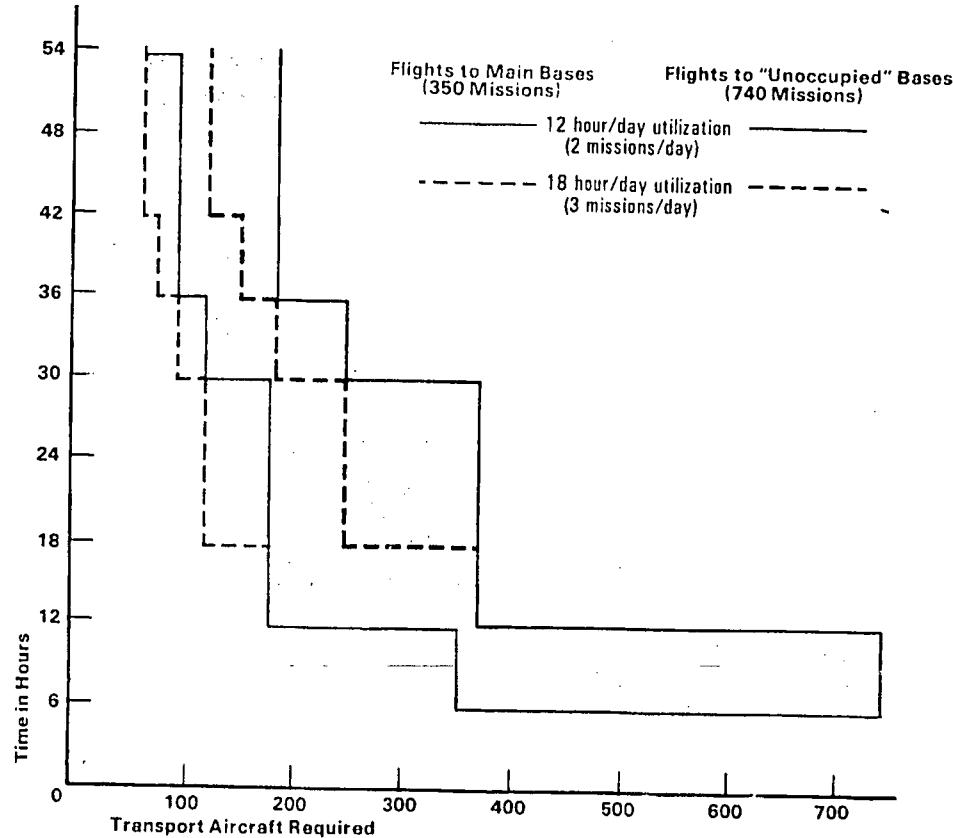
Assessment of Air Transport Resources, and Postulated Allocation

There is no direct evidence on how many transport aircraft would be committed to the movement of Frontal Aviation reinforcements. Nonetheless, correlation of

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**Time vs Aircraft Requirements
for Transport of Air Units From USSR to Main
and Unoccupied Bases in Eastern Europe**



This chart depicts the theoretical minimum times required to transport reinforcing Frontal Aviation units from the western USSR to East Germany. It is based on the following assumptions:

- The reinforcing units are completely ready to move
- Loading of each transport sortie requires 2 hours
- Average flight time from the Western USSR to Germany is 1.5 hours
- Unloading and turnaround at forward bases takes one hour
- Total mission time for each transport two-way sortie is six hours

Because the Soviets would choose to employ some mixture of "main" and "unoccupied" bases for reinforcing air units, the number of transport missions required should be between 350 and 740—in the shaded area on the graph.

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the requirements for transport missions with the time required for movement suggests that between 100 and 300 aircraft could be earmarked for the task.

As shown in the chart (at left), fewer than 150 transport aircraft would be required if two days or more were allowed for completing the movement of first and second echelons because each aircraft could complete several transport missions. (Theoretically, one aircraft would suffice if six months were allowed for the movement.) The number of transports required would increase greatly if compression of the initial move to a day or less were attempted. About 100 to 300 transports could complete the forward movement from the western military districts in 12 to 36 hours, depending on the utilization rate of the Soviet transport aircraft and the number of unoccupied bases that reinforcing units move to.

Dedication of this number of transport aircraft over a period of one to three days probably would not severely tax total Soviet airlift capacity. Soviet air transport resources which could be allocated to support the reinforcement of tactical air forces in the forward area include between 40 and 50 aircraft assigned to the tactical air armies of the Baltic, Belorussian, and Carpathian Military Districts, 750 to Military Transport Aviation (VTA), and 1,200 to the Ministry of Civil Aviation (MGA). The medium transports assigned to VTA and MGA would provide the greatest amount of airlift for the move.

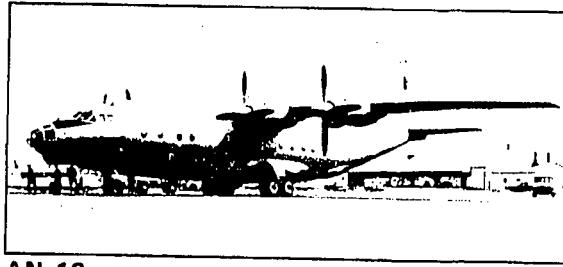
As noted above, these postulated requirements and allocations of transport aircraft necessarily are minimum estimates, and do not take cognizance of unforeseeable developments which could reduce the speed and efficiency of a large-scale airlift operation.

Nonetheless, given a few hours prior notice, it is estimated that the Soviets probably would be able to reinforce their tactical air forces in Eastern Europe rapidly enough to meet their force requirements for the conduct of planned offensive air operations against the NATO Central Region.

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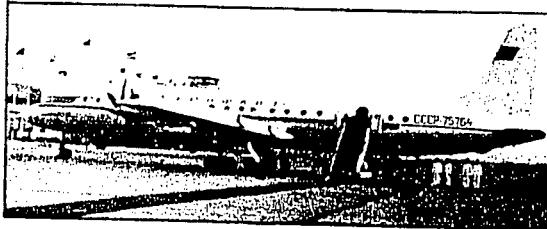
Soviet Air Transport Resources for Tactical Air Reinforcement



AN-12

Military Transport Aviation

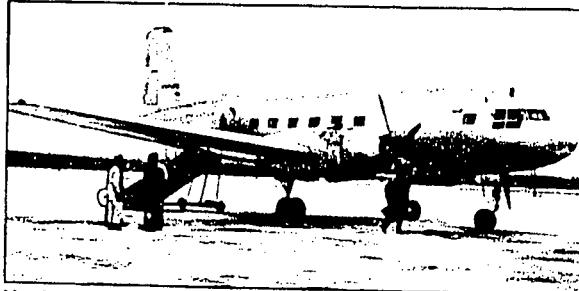
Soviet Military Transport Aviation (VTA) provides the main intertheater and long range airlift capability for the Soviet armed forces and the national government. Equipped with some 700 AN-12 medium assault and 50 AN-22 Cock heavy cargo transports, one of VTA's primary missions is to lift airborne troops. It is also used extensively to support other military forces, including Frontal Aviation.



IL-18

Ministry of Civil Aviation (MGA)

Soviet Civil Aviation, which serves as a reserve force for VTA, probably would be used extensively for military airlift missions in wartime. Use of civil passenger aircraft for support of military forces has been demonstrated during troop rotations in Eastern Europe and the recent Middle East resupply and evacuation operation. There are about 1200 large passenger and cargo aircraft, such as the IL-18, in this force.



IL-14

Air Transports Assigned to the Three Tactical Air Armies in the Western USSR

Some transport aircraft—almost certainly no more than 50—are assigned to tactical air units in the Baltic, Belorussian, and Carpathian Military Districts. They consist almost entirely of Li-2 and IL-14 light transports (the tactical air army in the Carpathian Military District also has two AN-8 medium transports.) The transports in each of the Military Districts are organized into a squadron-size or smaller organization providing general support for the district.

In addition to light and medium transports there are 25 or so small utility transports—mainly AN-14 Clod and a few AN-2 Colt—in the three western USSR tactical air armies. These could be used to carry key personnel and crew members as well as to perform other administrative or liaison tasks.

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Potential Effect of Pact Tactical
Air Modernization on Reinforcement Plans

By the end of the decade, ongoing programs to equip Frontal Aviation with more advanced aircraft could lead to a modification of Pact plans regarding the timing and scale of tactical air reinforcement in Central Europe. The need for massive reinforcement prior to or immediately after the initiation of hostilities derives from the short-range, low-payload capabilities of most Pact tactical aircraft.

Once sizable numbers of MIG-23 Floggers, SU-17 Fitters, and SU-19 Fencers--with improved range and payload characteristics--have replaced older models in the forward area and western USSR, however, there could be a decline in the overall number of Pact aircraft required to conduct the initial strikes of a large-scale air offensive against NATO. Concomitantly, there would be an increase in the ability of Soviet tactical air units in the western USSR to participate in these initial air operations from their home bases. Both developments could reduce the necessity for immediate large-scale Soviet air reinforcement in a European war as well as provide increased Pact flexibility for the use of its air power against NATO.

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Summary

The offensive wartime role the Warsaw Pact assigns its tactical air forces in Central Europe is predicated upon their early rapid reinforcement from bases in the western USSR. Evidence from Pact sources shows that a maximum air offensive is planned for the first few days of a conventional conflict. Medium bombers of Soviet Long Range Aviation, supported by Frontal Aviation units based in Eastern Europe, would strike NATO air-fields, missile launch sites, and command and logistics centers. Their primary objective remains the destruction of NATO's nuclear-capable forces. They would also attempt to cripple as early as possible the substantial conventional capabilities of NATO's tactical air forces.

Frontal Aviation in East Germany, Poland, and Czechoslovakia is currently composed of about 1,600 tactical combat aircraft, excluding reconnaissance and trainer aircraft. Because analyses of Pact sources [redacted] indicate that as many as 2,200 combat aircraft might be required for the initial strikes in a conventional war against the NATO Central Region, some 600 aircraft from the western USSR--the Baltic, Belorussian, and Carpathian Military Districts--may have to reinforce those already based in Eastern Europe. Requirements for continued air operations in later phases of a conflict would almost certainly demand that the engaged Frontal Aviation elements receive massive reinforcement.

Reinforcement Plan

There are a total of about 770 primary combat aircraft in the Baltic, Belorussian, and Carpathian Military Districts which Pact sources [redacted] indicate are intended for reinforcement of Pact air forces in Central Europe. Soviet planning assumes that a period of tension would precede the beginning of any war in Europe, and they probably would not begin air reinforcement from the western USSR until shortly--perhaps two days--before large-scale hostilities were expected. The Soviets probably realize

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that a massive movement of air forces into Eastern Europe would be provocative to NATO, hastening NATO mobilization and inviting NATO preemption. Also, the more time that elapsed between air reinforcement and the beginning of hostilities, the longer NATO intelligence would have for locating and targeting the reinforcing Soviet air units.

[redacted] air reinforcements from the western USSR would generally be allocated as follows:

- *Frontal Aviation aircraft from the Baltic and Belorussian Military Districts* are earmarked for use against NATO forces opposite East Germany. Most, if not all, of the air units located in these two military districts probably would deploy directly into East Germany because of their limited combat radii, particularly when carrying conventional ordnance. A total of some 1,755 primary combat aircraft could comprise Pact Frontal Aviation forces in East Germany after reinforcement.
- *Frontal Aviation aircraft from the Carpathian Military District* evidently are intended to reinforce Soviet and Czechoslovak air units currently located in Czechoslovakia opposite southern West Germany. In all, a total of some 650 primary combat aircraft could be located in this area after reinforcement.

Logistic Support

The availability of airfields and aviation POL and ordnance in the forward deployment areas is the most critical factor affecting Soviet capabilities to reinforce Frontal Aviation forces in Central Europe. Several hundred additional combat aircraft could begin arriving in the forward area within hours after the decision to reinforce has been made. There must be a sufficient number of airfields to receive these aircraft and enough aviation POL and munitions

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prepositioned in Eastern Europe to sustain full combat operations by all air forces in the area until other logistic support arrives from the USSR.

- Airfields: Comparison of estimated Pact requirements for airfields in the forward area after reinforcement and the number of airfields available there indicates that air operations by Pact tactical aircraft opposite the NATO Central Region almost certainly would not be restricted because of insufficient airfields.
- POL and Munitions: Comparison of the estimated POL and munitions expenditure rates of Pact tactical aircraft which probably would be based in the forward area with the amounts of these supplies believed to be currently stored there indicates that, during the initial period of war, Pact air forces in Central Europe almost certainly would have sufficient stocks (one to two months) available for full-scale operations until additional logistical support begins arriving from the USSR--probably within a few days.

Conducting the Reinforcement

Because there are evidently sufficient quantities of aviation POL and ordnance in the forward area to sustain Pact air operations for at least one to two months, the rapid movement of reinforcing Soviet air units into East Germany or Czechoslovakia would depend primarily on Soviet capabilities to move their support personnel and equipment.

A sufficient number of qualified personnel and quantities of supplies and equipment would have to be moved to the forward deployment airfields to receive the incoming air regiments and ready them for combat. The major factor determining the amount of personnel and equipment required would be whether the Soviet air regiments deploy to "main" bases or "unoccupied" bases. Soviet or East European air force units are normally already located at main base airfields in

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the forward area. Unoccupied base airfields are those which have a usable runway and parking space but none of the permanent facilities, equipment, supplies, and personnel usually found at main operating bases. A Soviet air regiment deploying to an unoccupied base would therefore require a greater degree of support from its own resources in the western USSR than a regiment moved to a main base.

Available evidence indicates that the Soviets intend to rely heavily on their air transport capabilities to support the reinforcement of air and ground forces in Central Europe. Some 350 flights from the USSR by transport aircraft would be required to support the movement of all 23 Frontal Aviation units in the Baltic, Belorussian, and Carpathian Military Districts to "main" operating bases in the forward area. Some 740 transport flights from the USSR would be needed if all units deployed to "unoccupied" bases.

An estimated 100 to 300 medium transport aircraft--each flying two or more round-trip flights during a period of one to three days--probably could be made available to support the air reinforcement effort. Light transport aircraft, such as the IL-14 or LI-2, could be made available to transport the air army and air division headquarters staffs. These allocations probably would not overtax Soviet airlift capacity and, given a few hours prior notice, probably would allow the reinforcement to be completed rapidly enough to meet Pact force requirements for the conduct of planned offensive air operations against the NATO Central Region.

By the end of the decade ongoing programs to equip Frontal Aviation with more advanced aircraft could lead to a modification of Pact plans regarding the timing and scale of air reinforcement in Central Europe. The introduction into Frontal Aviation of aircraft with greater range and payload capabilities could reduce the overall number of aircraft required to conduct the initial strikes in an air offensive against NATO as well as permit air units in the western USSR to participate in these strikes from their home bases.

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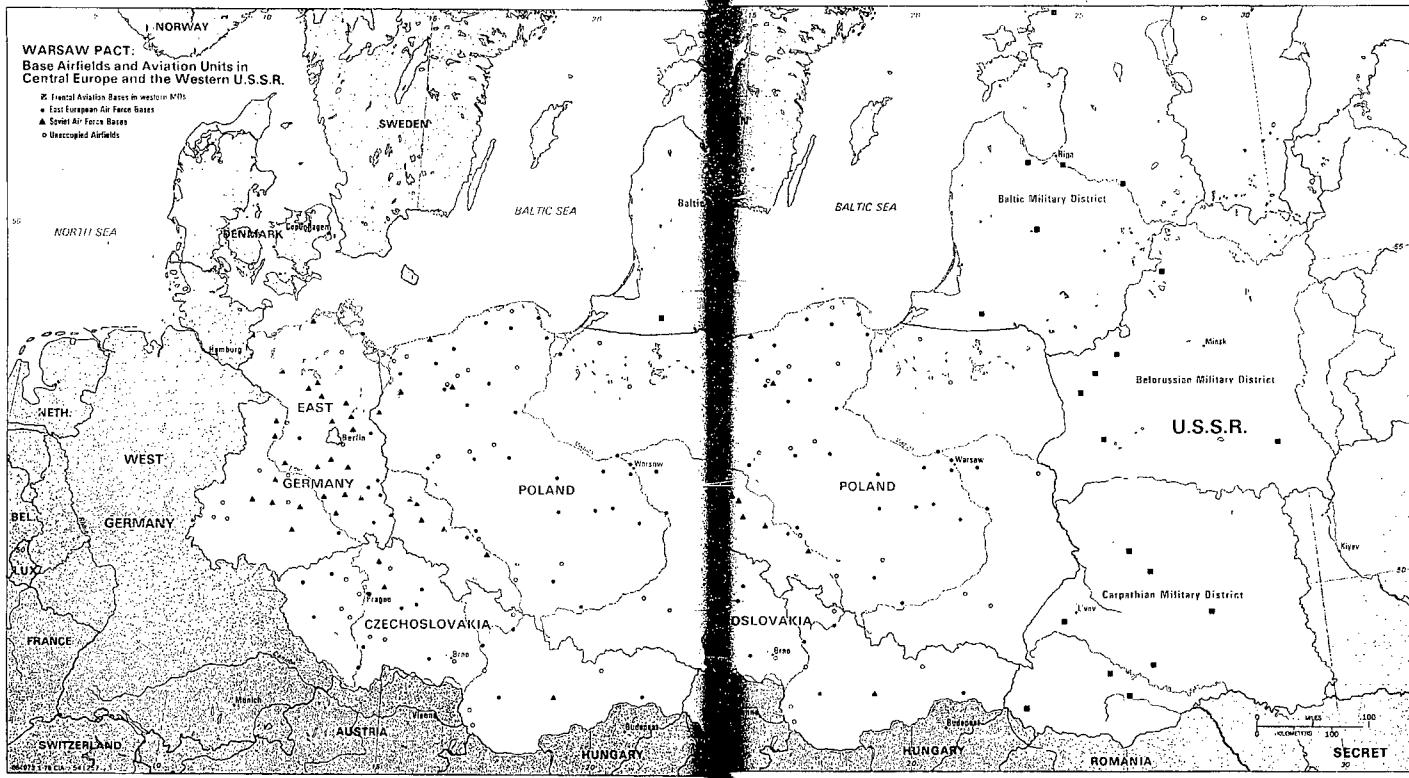
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